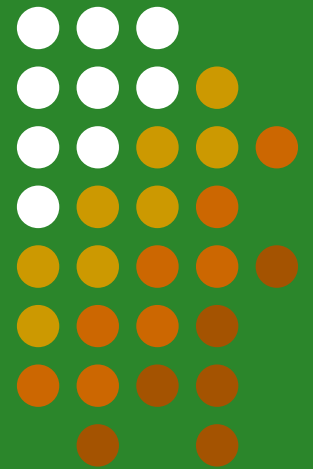
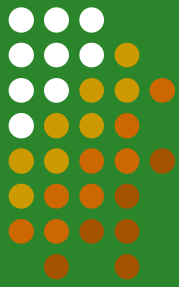


Digital Medical Office

The
Experience of
Primary Care Medical Center

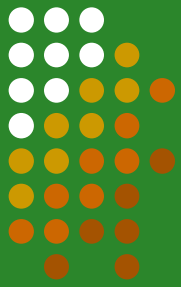


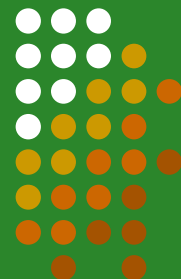
Digital Medical Office:



- EMR at the center (digital nervous system)
- Billing/lab/hospital interfaced to the EMR
- Electronic prescribing
- Digital x-rays linked to a PACS system
- Office intranet
- Internet

Primary Care Medical Center





Project North



FLOOR PLAN

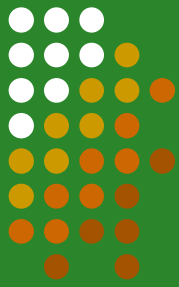
LEGEND :

- PUBLIC AREAS/WAITING
- STAFF CORRIDOR
- BUSINESS/ADMINISTRATIVE
- FUTURE BUILD-OUT
- BUILDING SUPPORT
- PEDIATRICS SUITE
- LAB
- OB-GYN SUITE
- PHYSICIAN'S OFFICE
- FUTURE DIAGNOSTIC
- DIAGNOSTIC SUITE
- UROLOGY SUITE
- PHYSICIAN'S OFFICE
- STAFF SUPPORT
- FAMILY PRACTICE
- INTERNAL MEDICINE

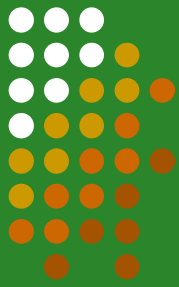


**PRIMARY CARE
MEDICAL CENTER**
MURRAY, KENTUCKY

Primary Care Medical Center

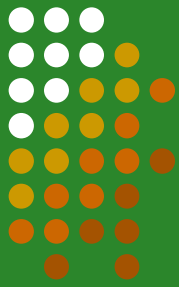


- Group practice in Murray, KY
- 10 physicians and 5 mid-level providers
- 3 FP, 3 IM, 2 Peds, 1 Ob-Gyn, 1 Cardiologist
- Open 7 days per week
- @100,000 office visits per year
- Laboratory services
- Imaging center with CT, US, DEXA, x-ray
- Cardiac diagnostics



Problems we faced in 2000

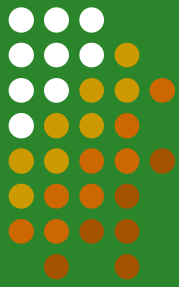
- Keeping patients with multiple medications records accurate and up to date
- Record keeping and record management
- Large volume of prescription refills
- Inadequate space for medical records
- The opening of a new satellite office



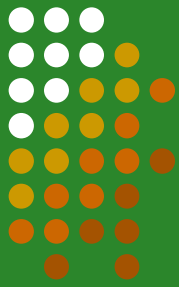
Potential Solutions

- Hire more employees
- Build a new main office
- Separate records in separate offices
- No satellite office
- Electronic medical record

Why an EMR was the right choice:



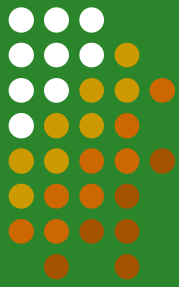
- Enhanced the quality of care for our patients
- Reduced the likelihood of medical errors
- Improved financial performance
- Enhanced perception of the practice
- Increased the pride and satisfaction of our employees and physicians



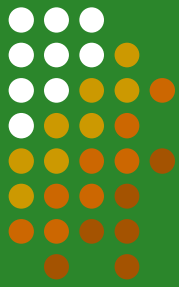
Decision Process

- Initial research and demo of EMR
- Site visit by physicians and key staff
- Key employees' input
- Physicians' input
- Managing partner's recommendation
- Physician vote to proceed
- Physicians' contract with each other
- Contract terms and final approval

EMR essentials:



- A minimal number of clicks to complete a note
- Few to no hourglasses
- Reliable
- Easy to customize or change in house
- Easy to learn and to teach



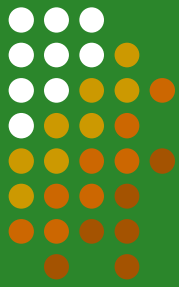
Important Dates

- March 2000: decision made to proceed
- October 2000: clinical messaging goes live
- January 2001: all notes entered digitally
- February 2001: new PM system and billing interface; new digital satellite office
- Spring 2001: lab interface finished
- Summer 2003: software and hardware upgrade; new Pediatric office opens

Phasing In

- New patients
- New + $\frac{1}{4}$ established patients
- New + $\frac{1}{2}$ established patients
- All patients
- Learning curve for doctors, nurses

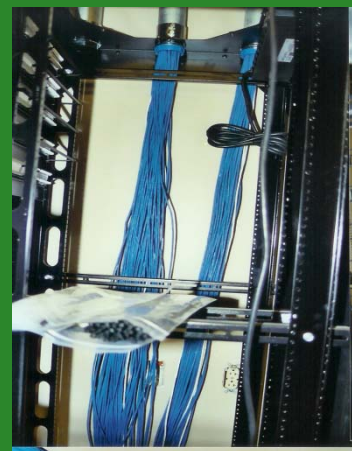
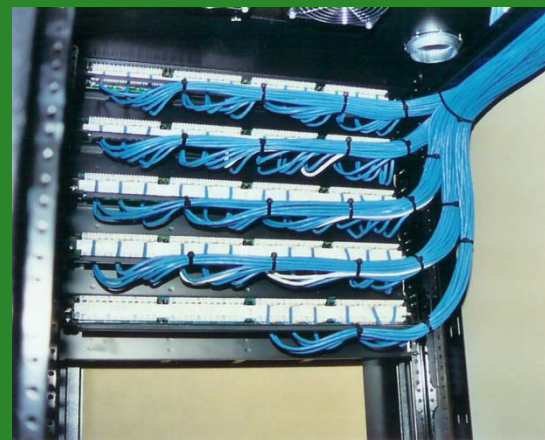




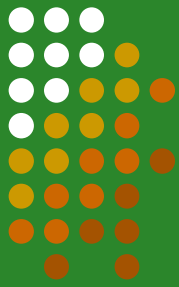
What is the system?

- Wireless Toshiba tablet computers (3rd version) communicating at 54 mgb/sec
- Servers with 5 terabytes of storage
- Wireless system but with 50 miles of wire dedicated to information management
- EMR interfaced with a lab data manager and practice management system

Primary Care Medical Center



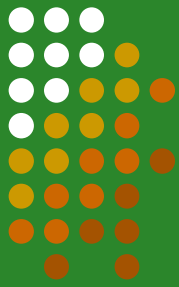
Patient Perception



- High tech image
- Appreciation of potential to reduce medical errors
- Efficiencies realized by patients
- Less waiting times
- Quicker answers to requests

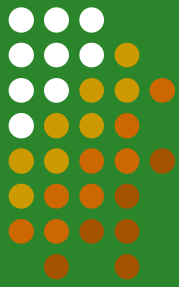


Implementation



- Installation
- Clinical messaging system (Intranet)
- Dual paper and digital records (Phasing in)
- All digital

How much did the system cost?

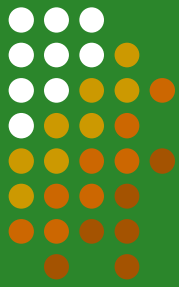


2000 \$1,474 per provider per month
\$1,000 hardware & \$384 software

2003 \$776 per provider per month
\$392 hardware & \$384 software

2007 \$350 per provider per month

Total investment \$1,500,000



How EMR was paid for

Doctors pay initially fell until benefits realized

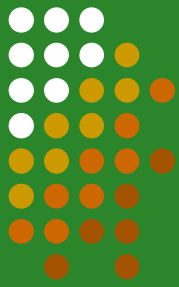
Improved cash flow

--A/R over 60 days old down to 20% from 50%

Non-clinical employees dropped by 4 FTEs while adding 1.5 new providers and a 2nd office

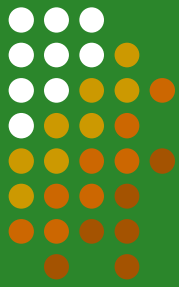
Employees salaries decreased from 24.1% to 22.8%

THE BOTTOM LINE



1. From 2000-2002, IT spending increased from 1.05% to 3.59%
2. Billings increased 18.1%
3. Overhead dropped from 50% to 46%
4. Physician salaries/benefits increased 24.3%

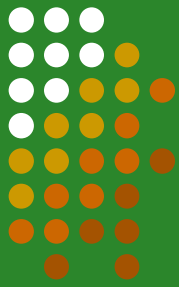
*Product of increased efficiency and rising volume



Thoughts Going Forward

- There needs to be:
 1. Central depository for data
 - A. Diagnoses
 - B. Medications/allergies
 - C. Labs
 - D. Demographics
 2. National PACS access
 3. Patient access to this information

Thoughts Going Forward



- There does not need to be:
 1. Government or hospital payment for these systems unless:
 - A. Significant physician investment
 - B. Performance improvement which improves care and reduces healthcare expenditures
 - C. This reduction in healthcare expenditures will be balanced by payment for a national digital healthcare system